



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Log 2205-B

Date: January 9, 1990

In reply refer to: A-89-133 and -134

Mr. Robert W. Grant
President
National Fire Protection
Association
Batterymarch Park
Quincy, Massachusetts 02269-0101

About 0901 central daylight time on August 31, 1988, Delta Air Lines, Inc., flight 1141, crashed shortly after lifting off from runway 18L at the Dallas-Fort Worth International Airport (DFW), Texas. The airplane, a Boeing 727-232, U.S. Registry N473DA, was a regularly scheduled passenger flight and was en route to Salt Lake City, Utah.

The flightcrew reported that the takeoff roll appeared to be normal in all respects, with no warning lights, audible warnings, or unusual engine instrument conditions. The captain stated that the rotation was initially normal, but as the main gear wheels left the ground he heard "two explosions." He said it felt as though the airplane was experiencing "reverse thrust." The captain stated that the airplane began to "roll violently."

The airplane struck the instrument landing system (ILS) localizer antenna array approximately 1,000 feet beyond the end of runway 18L, and came to rest about 3,200 feet beyond the departure end of the runway. The flight was airborne approximately 22 seconds from liftoff to the first ground impact near the ILS localizer antenna. The airplane was destroyed by impact forces and the postcrash fire. Of the persons on board flight 1141, 12 passengers and 2 crewmembers were killed, 21 passengers and 5 crewmembers were seriously injured, and 68 passengers sustained minor or no injuries.¹

The Safety Board's investigation determined that the flightcrew did not properly configure the wing flaps and slats prior to the attempted takeoff. With the wing flaps and slats in the retracted or 0° position, the airplane did not develop sufficient lift to climb and maintain flight.

¹For more detailed information, read Aircraft Accident Report--"Delta Air Lines, Inc., Boeing 727-232, N473DA Dallas/Fort Worth International Airport, Texas, August 31, 1988" (NTSB/AAR-89/04).

The initial notification of the DFW emergency units was timely and efficient. It took Department of Public Service (DPS) communications personnel 21 minutes to complete notifications. This was a considerable improvement over the 45 minutes it took to complete the majority of notifications during the response to the Delta flight 191 accident at DFW in 1985.² This significant reduction in notification time is attributable, at least in part, to improvements in distributing the communications workload between the DPS communications center and the emergency operations center (EOC). In addition, the installation and operational use of the Automated Voice Notification System in the EOC significantly reduced the notification times. These changes were instituted following the Delta flight 191 accident in response to the Safety Board's Safety Recommendation A-86-87.

Other communications improvements were most notable in the area of field communications and coordination with area hospitals. The use of cellular telephones in ambulances, in supervisory vehicles, and in the new command post vehicles afforded significant benefits to DFW DPS supervisors and hospitals in coordinating patient tracking and disposition.

The Safety Board believes that because of its benefits, operators of other large airports should evaluate the potential benefits of using Automated Voice Notification Systems for emergency response/mutual aid notifications.

One difficulty arose when some mutual aid personnel attempted to gain entry through a nearby gate and found that it had been chained and locked with a lock to which the DPS did not have a key. It was later determined that the lock had been placed on the gate by someone other than airport personnel. Some delay was experienced by mutual aid units while they obtained a cutting tool in an attempt to gain access through this gate. This delay had no negative effect on the success of the rescue activities, since the majority of emergency vehicles and personnel were already in place on the aircraft side of the fence. It should be noted, however, that under different circumstances such delays could have an adverse impact on rescue efforts. DFW DPS has since provided bolt cutters for all emergency vehicles in order to preclude any such recurrence. The Safety Board believes that bolt cutters should be part of the standard equipment list for emergency vehicles.

Therefore, the National Transportation Safety Board recommends that the National Fire Protection Association:

Inform the members of the Technical Committee on Aircraft Rescue and Fire Fighting (ARFF) of the ARFF efforts in this accident and of the benefits of using automated voice notification systems for emergency response/mutual aid notifications. (Class II, Priority Action) (A-89-133)

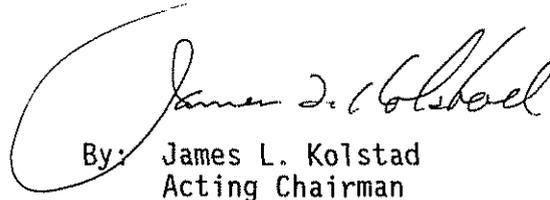
²Aircraft Accident Report--"Delta Air Lines Inc., Lockheed L-1011-385-1, N726DA Dallas/Fort Worth International Airport, Texas, August 2, 1985" (NTSB/AAR-86/05).

Recommend to the Technical Committee on Aircraft Rescue and Fire Fighting (ARFF) that the appropriate manual be modified to include bolt cutters as recommended equipment for ARFF vehicles. (Class II, Priority Action) (A-89-134)

Also, the National Transportation Safety Board issued Safety Recommendations A-89-121 thru -130 to the Federal Aviation Administration, A-89-131 and -133 to the American Association of Airport Executives and the Airport Operations Council International, Inc.

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "...to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any action taken as a result of its safety recommendations. Therefore, it would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter. Please refer to Safety Recommendations A-89-133 and -134 in your reply.

KOLSTAD, Acting Chairman, BURNETT, LAUBER, NALL, and DICKINSON, Members, concurred in these recommendations.



By: James L. Kolstad
Acting Chairman